

The Cultivation of ‘Yumesuruga’ for Green Tea which has Excellent Green Color of Made Tea and Color of Liquor

Hikaru Sato¹, Hideyuki Katai¹, Yoriyuki Nakamura², Yoichi Aoshima³, and Yasutaka Suzuki¹,

1: Tea Res. Center, Shizuoka Pref. Res. Inst. of Agri. and Forestry, 1706-11 Kurasawa, Kikugawa, 439-0002, Japan

2: University of Shizuoka, 52-1 Yata, Suruga-ku, Shizuoka-city, 422-8526, Japan

3: Shizuoka Pref. Agri. and Forestry, 678-1 Tomigaoka, Iwata, 438-8577, Japan

Correspondent email: hikaru2_sato@pref.shizuoka.lg.jp

Summary

A new green tea cultivar ‘Yumesuruga’ was bred at the Tea Research Center, Shizuoka Prefectural Research Institute of Agriculture and Forestry. ‘Yumesuruga’ was selected out of seedlings crossed between ‘Okuhikari’ and ‘Yabukita’ in 1986, and an application for registration had been published in 2010. The main feature about this cultivar is an excellent green color of made tea and color of liquor. The tea of ‘Yumesuruga’ have a mild flavor and taste, because of the small amount of catechins compared with ‘Okuhikari’ and ‘Yabukita’. ‘Yumesuruga’ is semi-late budding, and the plucking time of the first crop is about 4 days later than that of ‘Yabukita’. In addition, the yield of ‘Yumesuruga’ is consistently higher than that of ‘Okuhikari’ and ‘Yabukita’. These results suggest that ‘Yumesuruga’ can cultivate in combination with a main cultivar ‘Yabukita’. It will contribute to the improvement of the tea business management.

Introduction

The main tea cultivar ‘Yabukita’ made a great contribution to the quality and yield of green tea in Japan. Presently, ‘Yabukita’ are cultivated more than 90% of all tea fields in Shizuoka Prefecture. However, we are faced with a variety of problems such as an excessive concentration of plucking date, high incidence of disease and insect damage, standardization of flavor by progressing over concentration of the mono-cultivar ‘Yabukita’. In dealing with these problems, we have been developing new cultivars which can cultivate in combination with ‘Yabukita’ and have superior abilities in the quality and yield. We then developed the new green tea cultivar ‘Yumesuruga’ with vivid green color of made tea and color of liquor.

Breeding Process

‘Yumesuruga’ was bred in 1986 at the Tea Research Center, Shizuoka Prefectural Research Institute of Agriculture and Forestry. It selected from seedlings crossed between ‘Okuhikari (Seed parent)’ and ‘Yabukita (Pollen parent)’. We carried out a wide variety of experiments on ‘Yumesuruga’ for 22 years.

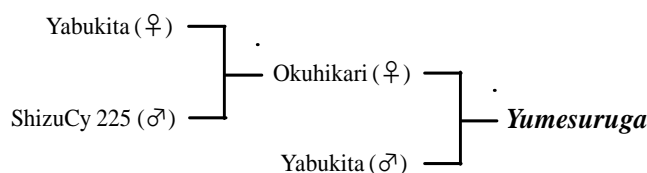


Figure 1. Breeding process of ‘Yumesuruga’

Varietal Characteristics

According to results compiled in Table 1, 'Yumesuruga' is semi-late budding, the plucking time of the first crop is about 4 days later than that of 'Yabukita', and 1-2 days earlier than that of 'Okuhikari'. The shape of plant is medium type, the growth is vigorous. Resistance to anthracnose and white peach scale is the same level as 'Yabukita'. In the resistance to

gray blight, 'Yumesuruga' is stronger than 'Yabukita'. Figure 2 indicates that the yielding ability of 'Yumesuruga' is consistently higher than that of 'Okuhikari' and 'Yabukita'. This pattern is similar to the yield per plucking surface area. Figure 3 shows that the quality of crude tea of 'Yumesuruga' comprehensively superior to that of 'Yabukita'. The tea of 'Yumesuruga' is particularly better than others about the color of made tea and color of liquor. The tea of 'Yumesuruga' have less bitterness and astringency, more mild flavor and taste because it is estimated that this feature result from low-caffeine and low-tannin (Table 2).

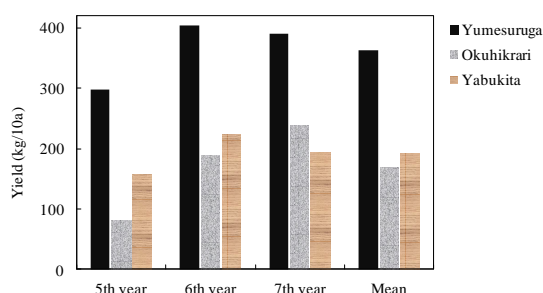


Figure 2. Comparison of the yield

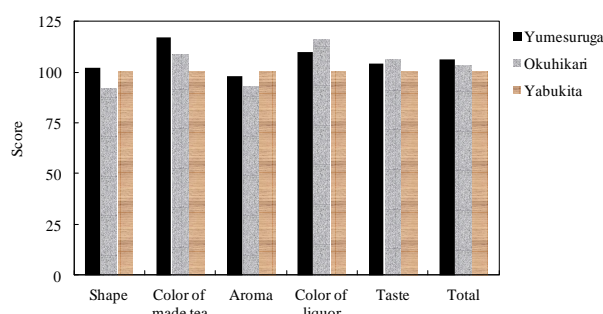


Figure 3. Results of the sensory test

Table 2. Components of the crude tea

	(d.w. %)					
	Total nitrogen	Fiber	Caffeine	Tannin	Amino acids	Theanine
<i>Yumesuruga</i>	5.3	17.1	3.4	13.9	2.6	1.4
Okuhikari	5.2	16.8	3.4	15.7	2.3	1.2
Yabukita	5.7	14.5	3.6	17.2	2.9	1.4

The first crop of tea in the 7th year. Measured by near-infrared spectrometer.

Application

'Yumesuruga' can cultivate in combination with the main cultivar 'Yabukita' because the plucking time of the first crop is about 4 days later than 'Yabukita'. We believe that this will be useful in putting off the date of the plucking day, then improving tea factory utilization. Since recent market assessments tend to place much a high value on the color score, we strongly expect that 'Yumesuruga' with brilliant green color of made tea and color of liquor have an advantage in the tea market. 'Yumesuruga' have a weak personality in the flavor, and resistance for stress like cold and disease at the same level as 'Yabukita'. But 'Yumesuruga' is without a doubt superior to 'Yabukita' about the yielding ability. Furthermore, the crude tea of 'Yumesuruga' have mild flavor liked by everyone, and less bitter and astringent taste. We fervently hope that the growing area of 'Yumesuruga' will be broadened by a lot of tea farmers and then 'Yumesuruga' lead the development and expanding of the tea industry.